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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/778,896

02/08/2001

Kimiaki Ando

P20559

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7055

7590

05/04/2004

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EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2634

8

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,896

Applicant(s)

ANDO ET AL.

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4, 6, and 7.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-14 are pending in the application.

Specification

2. The disclosure is objected to because of the following informalities: Page 16 line 2, "(time t1 to t2) should be changed to "(time t2 to t3)".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 7, 8, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hulbert (US5,809,062).

- In regard claim 1, Hulbert discloses an ambiguity resolution system in direct sequence spread spectrum modulation systems with the steps of receiving pilot signals of a pilot channel (Fig.1 and Fig.5, column 2 lines 36-62, and column 3 lines 19-52); and despreading the received pilot signals at irregular timings (Fig.1 and Fig.4, and column 3 lines 3-17).
- In regard claim 2, all limitation can further be taught in Fig.4 and column 3 lines 3-17.
- In regard claim 7, which is a demodulation method related to claim 1, the limitation of dividing the received signal into two signal systems can further be taught in Figs.1, 2, 5, and Figs.6 and 11 element 70, and column 4 line 20 – column 5 line 58, and column 6 line 50 – column 7 line 22; and despreading one signal system using said pilot signal specific spreading code at irregular timings and demodulating the pilot signals; and despreading the other signal system using another spreading code in parallel with the despreading on said one signal system and demodulating signals other than pilot signals can further be taught in column 3 lines 3-18.
- In regard claim 8, all limitation can further be taught in column 3 lines 3-18 and column 8 claim 2.
- In regard claim 14, which is a receiver claim related to claim 7, all limitation is contained in claim 7. The explanation of all the limitation is already addressed in the above paragraph.

5. Claims 6, 9, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Uta et al. (US6,141,337).

- In regard claim 6, Uta et al. discloses a spread spectrum communication system with the steps of receiving a signal sent from the transmitting side including irregularly distributed pilot signals (Fig.4 elements 411-415, Fig.15 element 415, and column 4 line 56 – column 5 line 44, column 10 lines 55-64, and column 5 line 45 – column 6 line 28); and determining reception timings of said pilot signals using the same technique as that used to distribute pilot signals on said transmitting side and receiving pilot signals at the determined timings (Fig.5 elements 415 and Fig.15 elements 415, and column 10 lines 55-64, and column 5 line 45 – column 6 line 28, and column 4 line 56 – column 5 line 44).
- In regard claim 9, the limitation of a despreading circuit that despreads pilot signals; and a timing control signal generation circuit (Fig.4 elements 411-415 and column 4 line 56 – column 5 line 44) that generates a timing control signal to make despreading timings of said pilot signals irregular can further be taught in Fig.5, and column 5 line 45 – column 6 line 28, and column 4 line 56 – column 5 line 44.
- In regard claim 13, which is a receiver claim related to claim 9, all limitation is contained in claim 9. The explanation of all the limitation is already addressed in the above paragraph.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uta et al. (US6,141,337) in view of Kaku et al. (US5,528,624).

- In regard claim 10, Uta et al, discloses all limitation as described in the above paragraph except specifically teaching that the timing control signal generation circuit irregularly determines timings from timings or periods other than timings identical to past despreading timings or periods close to those timings based on past information retained in said retention circuit.

Kaku et al. discloses a DS/CDMA receiver that the timing control signal generation circuit irregularly determines timings from timings or periods other than timings identical to past despreading timings or periods close to those timings based on past information retained in said retention circuit (Fig.6C and column9 line 23 – column 10 line 27) in order to ensure smooth transition when new phase positions are determined and old phase positions are to be updated. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Uta's spread spectrum communication system in view of

Kaku's disclosure in order to ensure smooth transition when new phase positions are determined and old phase positions are to be updated.

Allowable Subject Matter

8. Claims 3-5, 11, and 12 are allowed.
9. The following is an examiner's statement of reasons for allowance:
 - The prior art fails to teach the method and system of Claims 3, 11, and 12 that specifically comprises the steps of:
 - measuring a variation in the reception intensity of a demodulated signal obtained by despreading as recited; and
 - adaptively changing despreading timings of said pilot signals based on the measured variation in said reception intensity as recited as recited; and

Hulbert (US5,809,062), Uta et al. (US6,141,337), and Kaku et al. (US5,528,624) do not teach above features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Reference US5,548,613 and US6,212,243 are cited because they are put pertinent to the pilot signal despread in communication system. However, none of references teach detailed connection as recited in claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600